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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,926	03/18/2004	Jin-hyuk Choi	1572.1240	5416
21171	7590	08/10/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			COLON SANTANA, EDUARDO	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,926

Applicant(s)

CHOI ET AL.

Examiner

Eduardo Colon Santana

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12-14, 16-25 and 33-43 is/are rejected.
- 7) ☒ Claim(s) 8-11, 15 and 26-32 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/15/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 4/15/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 22 and 23 recites the limitation "the movable hinge hole and/or movable hinge shaft" in line 2 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 7, 12-14, 22-25, 33, 34, 38-40, 41 and 43 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dalpane U.S. Patent No. 4,788,999.

Referring to claim 1, Dalpane discloses an automatic servo-controlled lifting member for a reaction chamber (see all figures and respective portions of the specification). Dalpane further depicts from figure 1, a chamber having part of a main body (10), including a lid (20) joined to a lid hinge (21) to rotationally opening and closing the lid of a chamber having an upper opening thereof. Furthermore, Dalpane describes the use of a lifting member, having a first end (32) separated from a rotation axis of the lid and rotatably joined with the lid; and a second end (13) rotatably joined to the main body (10); and a driver couple to an actuator (40) to activate the lifting member.

As to claim 43, Dalpane addresses all the limitations as disclosed in claim 1 above, in addition to depicting a lid rotation system including a driver couple with actuator (40) that would

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position the lid approximately parallel to a sealing member (11) to ease creation of a vacuum in the chamber when closed.

Referring to claims 7 and 24, Dalpane addresses all the limitations disclosed in claim 1 above and in addition depicts a lid rotation system having a lid hinge (21) see figures 1 and 4 to open and close the lid (20). This lid hinge, although not clearly depict provides a main hinge shaft rotatably connecting two sets of main hinges (auxiliary hinge)¹ and the hinge bracket to rotate the lid (20). Figure 4 depicts a side view of the main hinge bracket and main hinge shaft (21).

As to claims 2 and 25, Dalpane depicts a lid rotation system including a driver couple with actuator (40) that would position the lid approximately parallel to a sealing member (11) to create a vacuum condition in the chamber when closed.

Referring to claims 22 and 23, Dalpane depicts from figure 1, a movable hinge hole to allow a movable hinge shaft (41) move slidingly, and integrally formed with the first end of the lifting member.

As to claims 12-14, see figured 1 and 4, although not clearly depicted, provides a main hinge shaft rotatably connecting two sets of main hinges (21) (auxiliary hinge)² joined with a hinge bracket (both integrally formed, see figure 4) at opposite sides of the main body (10) to rotate the lid (20).

¹ Auxiliary hinge would be integrated with the main hinge)

² Auxiliary hinge would be integrated with the main hinge)

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Referring to claims 33 and 34, Dalpane discloses in figure 1, a lifting member having an outer member (40), an inner member (243) movably disposed in the outer member, a movable hinge (32) rotatably joining the lifting member to the lid (20), a combiner (13) connecting the outer member to the main body (10), a driver being part of the outer member includes an actuator with inherently includes a motion converter to move the inner member (243) to open and close the lid.

As to claims 38-40, Dalpane depicts in figure 1, a movable hinge (32) rotatably joining the lifting member to the lid (20) and a movable hinge hole parallel to a movable hinge shaft (41) to allow the movable hinge shaft to move slidingly, all being integrally formed with the first end of the lifting member.

Referring to claim 41, as depicted in figure 1 and 5 the movable hinge (32) would be located at a first end position, second end position and an intermediate position of the movable hinge hole as the actuator opens and closes the lid (20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3, 5, 16-21 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalpane in view of Suzuki U.S. Patent No. 6,067,667.

Referring to claims 3, 5 and 37, Dalpane addresses the limitations of claim 1 above including the use of a driver for an actuator to convert hydraulic or pneumatic energy to effective motion to open and close the lid (20). However, Dalpane does not teach nor describe the use of a location sensor or a controller to drive the motor or actuator in response to the signal from the location sensor. Nonetheless, Suzuki discloses a semi-automatic closing device for a seat lid, in which a sensor (100) is used to sense the location of a lid together with a drive circuit (120) which controls a driving motor (10) in response to the signal from the sensor (100) (see figure 5 and Col. 3, lines 21-35). Even though, Dalpane and Suzuki seem to be classified in different arts, both inventors employ the same teaching of opening and closing a lid. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a location sensor as taught by Suzuki within the teaching of Dalpane for the purpose/advantages that a sensor would minimized the excessive force applied by an actuator to convert hydraulic or pneumatic energy to effective motion of opening a lid or closing a lid aptly to create a vacuum.

As to claims 16-21, Dalpane depicts from figure 1 and 5, a movable hinge (32) rotatably joining the lifting member to the lid (20) and a movable hinge hole to allow a movable hinge shaft (41) to

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move slidingly, all being integrally formed with the first end of the lifting member.

6. Claims 4, 6 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalpane and Suzuki and further in view of Lei et al. U.S. Patent No. 6,050,446.

Referring to claims 4, 6 and 42, Dalpane discloses the use of a lifting member, but does not explicitly describes having an additional lifting member (a pair) at opposite sides of the main body. On the other hand, Lei et al. discloses a pivoting lid assembly for a chamber wherein figure 1, constituted as prior art depicts a pair of lifting members (80) at opposite sides of the main body (202). Since Dalpane and Lei et al. are in the same field of endeavor related to rotating a lid of a chamber, the purpose disclosed by Lei et al. would have been recognized in the pertinent art of Dalpane. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a pair of lifting members at opposite sides of the main body as taught by Lei et al. within the teaching of Dalpane for the purpose/advantages that it will have a better structure supporting the lid in case one lifting member fails creating a "redundant" operating channel for either one of the pneumatic or hydraulic actuators being used.

7. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalpane in view of Suzuki U.S. Patent No. 6,067,667.

Referring to claims 35 and 36, Dalpane mention the use of a motion converter to convert movement of the actuator into movement of

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the inner member, but does not explicitly teach having a bevel or worm gear train as the motion converter. However, Suzuki being engage in the same practice of opening and closing a lid, depicts a motion converter having a worm gear train to open and close a lid (see figures 3-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a worm or bevel gear train within the teaching of Dalpane for the purpose/advantages of simplifying the changing (turning) of the rotation of a shaft at any particular moment and higher velocities.

Allowable Subject Matter

8. Claims 8, 15 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record in form 892 and not specifically relied upon is considered pertinent to applicant's disclosure to further show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

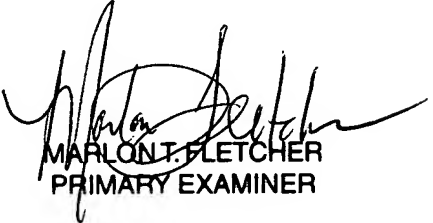
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Martin can be reached on (571) 272-

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2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ECS
July 27, 2005



MARLON T. FLETCHER
PRIMARY EXAMINER